Volume 215 June 1990

CONTENTS

The interaction between a solitary wave and a submerged semicircular cylinder. M. J. Cooker, D. H. Peregrine, C. Vidal and J. W. Dold *page* 1

The low-frequency scattering of Kelvin waves by stepped topography. E. R. Johnson 23

Turbulent stretching of line and surface elements. I. T. Drummond and W. Münch 45

Visualization of longitudinal convection roll instabilities in an inclined enclosure heated from below. J. N. Shadid and R. J. Goldstein 61

Frequency response of electrochemical sensors to hydrodynamic fluctuations. C. Deslouis, O. Gil and B. Tribollet 85

A visual study of the coherent structure of the turbulent boundary layer in flow with adverse pressure gradient. Qi Xiang Lian 101

On the stability of rivulet flow. P. Schmuki and M. Laso 125

Ring waves on the surface of shear flows: a linear and nonlinear theory. R. S. Johnson 145

On the connection between thin vortex layers and vortex sheets. G. R. Baker and M. J. Shelley 161

An easy-to-use formula for contaminant dispersion. Ronald Smith 195

Transition to oscillatory motion in rotating channel flow. W. H. Finlay 209

Direct numerical simulation of two-dimensional turbulent natural convection in an enclosed cavity. Samuel Paolucci 229

On steady and unsteady ship wave patterns. D. E. Nakos and P. D. Sclavounos 263

On three-dimensional long water waves in a channel with sloping sidewalls. J. Mathew and T. R. Akylas 289

A numerical bifurcation study of natural convection in a tilted two-dimensional porous cavity. D. S. Riley and K. H. Winters 309

The deformation of a liquid drop moving normal to a plane wall. C. Pozrikidis 331

An experimental investigation of turbulent shear flow cavitation. T. J. O'Hern 365

Vortex dynamics in a shearing zonal flow. Philip S. Marcus 393

On the shearing flow of foams and concentrated emulsions. Douglas A. Reinelt and Andrew M. Kraynik 431

On the hydraulics of Boussinesq and non-Boussinesq two-layer flows. GREGORY A. LAWRENCE 457

Flow and transport in single rock fractures. K. MURALIDHAR 481

Nonlinear convection in a rigid channel uniformly heated from below. P. G. DANIELS and C. F. ONG 503

Long-wave/short-wave interactions in flow between concentric cylinders. NICOLA J. HORSEMAN and ANDREW P. BASSOM 525

The interaction of waves with arrays of vertical circular cylinders. C. M. LINTON and D. V. EVANS 549

Surface-tension-driven Bénard convection in small containers. E. L. KOSCHMIEDER and S. A. PRAHL 571

Stability of a thin annular film in pressure-driven, low-Reynolds-number flow through a capillary. R. W. AUL and W. L. OLBRICHT 585

The evolution of grid-generated turbulence under conditions of stable thermal stratification. KYUNGHWAN YOON and Z. WARHAFT 601

A structural turbulence model for triple products of velocity and scalar. Y. NAGANO and M. TAGAWA 639

REVIEWS

Advances in Fluid Mechanics Measurements, edited by M. Gad-el-Hak; Frontiers in Experimental Fluid Mechanics, edited by M. Gad-el-Hak 658

Mathematical Modelling in Combustion and Related Topics, edited by C.-M. Brauner and C. Schmidt-Lainé; Instrumentation for Combustion and Flow in Engines, edited by D. F. G. Durão, J. H. Whitelaw and P. O. Witze 660

CORRIGENDUM 663

INDEX TO VOLUME 215 664